

WHAT IS CLAIMED IS:

- 1 1. An isolated polynucleotide which specifically modulates transcription
2 in a plant suspensor cell and/or basal region of a plant embryo, the polynucleotide comprising
3 a promoter control element comprising,
 - 4 (a) a nucleotide sequence having at least 50% sequence identity to
5 nucleotides 3329 to 3475 of SEQ ID NO:1; or
 - 6 (b) a nucleotide sequence which hybridizes to nucleotides 3329 to 3475 of
7 SEQ ID NO:1 under a condition establishing a T_m minus 20°C.
- 1 2. The isolated polynucleotide of claim 1, comprising
 - 2 (a) a nucleotide sequence having at least 50% sequence identity to SEQ ID
3 NO:1; or
 - 4 (b) a nucleotide sequence which hybridizes to SEQ ID NO:1 under a
5 condition establishing a T_m minus 20°C.
- 1 3. The isolated polynucleotide of claim 1, wherein the polynucleotide
2 comprises nucleotides 3324 to 3580 of SEQ ID NO:1.
- 1 4. An expression cassette comprising a promoter sequence, the promoter
2 sequence comprising,
 - 3 i. a nucleotide sequence having at least 50% sequence identity to
4 nucleotides 3329 to 3475 of SEQ ID NO:1; and
 - 5 ii. a promoter polynucleotide with at least basal promoter activity, which
6 promoter polynucleotide is operably linked to a heterologous polynucleotide,
7 wherein when the expression cassette is inserted into a plant, the heterologous
8 polynucleotide is specifically expressed in a suspensor cell and/or basal region of a plant
9 embryo.
- 1 5. The expression cassette of claim 4, wherein the nucleotide sequence
2 comprises nucleotides 3329 to 3475 of SEQ ID NO:1
- 1 6. An isolated polynucleotide which specifically modulates transcription
2 in a plant suspensor cell and/or basal region of a plant embryo, the polynucleotide comprising
3 a promoter comprising,

4 (a) a nucleotide sequence having at least 50% sequence identity to SEQ ID
5 NO:1 or nucleotides 1 to 3154 of SEQ ID NO:6;

6 (b) a nucleotide sequence which hybridizes to SEQ ID NO:1 or
7 nucleotides 1 to 3154 of SEQ ID NO:6 under a condition establishing a T_m minus 20°C.

1 7. The isolated polynucleotide of claim 6, wherein the promoter
2 comprises SEQ ID NO:1.

1 8. The isolated polynucleotide of claim 6, wherein the promoter
2 comprises nucleotides 1 to 3154 of SEQ ID NO:6.

1 9. The isolated polynucleotide of claim 6, further comprising a G564
2 polynucleotide operably linked to the promoter.

9 10. The isolated polynucleotide of claim 9, wherein the isolated
10 2 polynucleotide comprises SEQ ID NO:2.

10 11. The isolated polynucleotide of claim 6, further comprising a G541
11 2 polynucleotide operably linked to the promoter.

11 12. The isolated polynucleotide of claim 9, wherein the isolated
12 2 polynucleotide comprises SEQ ID NO:6.

12 13. The isolated polynucleotide of claim 6, further comprising a
13 2 heterologous polynucleotide operably linked to the promoter.

1 14. A vector comprising a promoter of claim 6 operably linked to a
2 heterologous nucleic acid sequence.

1 15. The vector of claim 14, wherein the promoter is SEQ ID NO:1.

1 16. The vector of claim 14, wherein the promoter comprises nucleotides 1
2 to 3154 of SEQ ID NO:6.

1 17. A host cell comprising a promoter of claim 6.

1 18. The host cell of claim 17, wherein the promoter comprises SEQ ID
2 NO:1.

1 19. The host cell of claim 17, wherein the promoter comprises nucleotides
2 1 to 3154 of SEQ ID NO:6.

1 20. The host cell of claim 17, wherein the host cell is a plant cell.

1 21. A host cell comprising the vector of claim 14.

1 22. A plant comprising the polynucleotide of claim 13.

1 23. A plant of claim 22, wherein the promoter comprises SEQ ID NO:1.

1 24. A plant of claim 22, wherein the promoter comprises nucleotides 1 to
2 3154 of SEQ ID NO:6.

1 25. A plant comprising a vector of claim 14.

1 26. A method of modulating transcription in a plant suspensor cell and/or
2 basal region of a plant embryo, the method comprising introducing into a plant an expression
3 cassette comprising the promoter of claim 1.

1 27. The method of claim 26, wherein the promoter comprises SEQ ID
2 NO:1.

1 28. The method of claim 26, wherein the promoter comprises nucleotides 1
2 to 3154 of SEQ ID NO:6.

1 29. The method of claim 26, wherein a G564 polynucleotide is operably
2 linked to the promoter.

1 30. The method of claim 26, wherein the promoter is operably linked to a
2 heterologous polynucleotide.

1 31. The method of claim 30, wherein the promoter is operably linked to
2 the heterologous polynucleotide in an antisense orientation.

1 32. An isolated nucleic acid comprising a polynucleotide, or complement
2 thereof, encoding a G564 polypeptide exhibiting at least 50% sequence identity to SEQ ID
3 NO:3.

1 33. The isolated nucleic acid of claim 32, wherein the G564 polypeptide
2 comprises SEQ ID NO:3.

1 34. The isolated nucleic acid of claim 32, wherein the nucleic acid further
2 comprises a promoter operably linked to the polynucleotide.

1 35. The isolated nucleic acid of claim 34, wherein the promoter is a
2 constitutive promoter.

1 36. The isolated nucleic acid of claim 34, wherein the polynucleotide is
2 linked to the promoter in an antisense orientation.

1 37. An isolated nucleic acid comprising a polynucleotide, or complement
2 thereof, encoding a C541 polypeptide exhibiting at least 50% sequence identity to SEQ ID
3 NO:7.

1 38. The isolated nucleic acid of claim 37, wherein the C541 polypeptide
2 comprises SEQ ID NO:7.

1 39. The isolated nucleic acid of claim 37, wherein the nucleic acid further
2 comprises a promoter operably linked to the polynucleotide.

1 40. The isolated nucleic acid of claim 39, wherein the promoter is a
2 constitutive promoter.

1 41. The isolated nucleic acid of claim 39, wherein the polynucleotide is
2 linked to the promoter in an antisense orientation.

1 42. An expression cassette comprising a promoter operably linked to a
2 heterologous polynucleotide sequence, or a complement thereof, encoding a G564
3 polypeptide exhibiting at least 50% sequence identity to SEQ ID NO:3.

1 43. The expression cassette of claim 42, wherein the G564 polypeptide
2 comprises SEQ ID NO: 3.

1 44. The expression cassette of claim 42, wherein the G564 polynucleotide
2 comprises nucleotides 4242 to 4901 of SEQ ID NO: 2.

1 45. The expression cassette of claim 42, wherein the promoter is a
2 constitutive promoter.

1 46. The expression cassette of claim 42, wherein the polynucleotide is
2 linked to the promoter in an antisense orientation.

1 47. An expression cassette comprising a promoter operably linked to a
2 heterologous polynucleotide, or a complement thereof, encoding a C541 polypeptide
3 exhibiting at least 50% sequence identity to SEQ ID NO:7.

1 48. The expression cassette of claim 47, wherein the C541 polypeptide
2 comprises SEQ ID NO:7.

1 49. The expression cassette of claim 47, wherein the C541 polynucleotide
2 comprises nucleotides 3155 to 3552 of SEQ ID NO: 6.

1 50. The expression cassette of claim 47, wherein the promoter is a
2 constitutive promoter.

1 51. The expression cassette of claim 47, wherein the polynucleotide is
2 linked to the promoter in an antisense orientation.

1 52. A host cell comprising an exogenous nucleic acid comprising a
2 polynucleotide, or complement thereof, encoding a G564 polypeptide exhibiting at least 80%
3 sequence identity to SEQ ID NO:3.

1 53. The host cell of claim 52, wherein the nucleic acid further comprises a
2 promoter operably linked to the polynucleotide.

1 54. The host cell of claim 53, wherein the promoter is constitutive.

1 55. The host cell of claim 53, wherein the promoter is operably linked to
2 the polynucleotide in an antisense orientation.

1 56. A host cell comprising an exogenous nucleic acid comprising a
2 polynucleotide, or complement thereof, encoding a C541 polypeptide exhibiting at least 50%
3 sequence identity to SEQ ID NO:7.

1 57. The host cell of claim 56, wherein the nucleic acid further comprises a
2 promoter operably linked to the polynucleotide.

1 58. The host cell of claim 57, wherein the promoter is constitutive.

1 59. The host cell of claim 57, wherein the promoter is operably linked to
2 the polynucleotide in an antisense orientation.

1 60. A transgenic plant comprising a recombinant expression cassette, the
2 recombinant expression cassette comprising a polynucleotide, or complement thereof,
3 encoding a G564 polypeptide exhibiting at least 50% sequence identity to SEQ ID NO:3.

1 61. The transgenic plant of claim 60, wherein the G564 polypeptide
2 comprises SEQ ID NO:3.

1 62. The transgenic plant of claim 60, wherein the polynucleotide
2 comprises nucleotides 4242 to 4901 of SEQ ID NO:2.

1 63. The transgenic plant of claim 60, wherein the nucleic acid further
2 comprises a promoter operably linked to the polynucleotide.

1 64. The transgenic plant of claim 63, wherein the promoter is a constitutive
2 promoter.

1 65. The transgenic plant of claim 60, wherein the polynucleotide is linked
2 to the promoter in an antisense orientation.

1 66. A transgenic plant comprising a recombinant expression cassette, the
2 recombinant expression cassette comprising a polynucleotide, or complement thereof,
3 encoding a C541 polypeptide exhibiting at least 50% sequence identity to SEQ ID NO:7.

1 67. The transgenic plant of claim 66, wherein the G541 polypeptide
2 comprises SEQ ID NO:7.

1 68. The transgenic plant of claim 66, wherein the polynucleotide
2 comprises nucleotides 3155 to 3552 of SEQ ID NO: 6.

1 69. The transgenic plant of claim 66, wherein the nucleic acid further
2 comprises a promoter operably linked to the polynucleotide.

1 70. The transgenic plant of claim 69, wherein the promoter is a constitutive
2 promoter.

1 71. The transgenic plant of claim 66, wherein the polynucleotide is linked
2 to the promoter in an antisense orientation.

1 72. An isolated polypeptide comprising an amino acid sequence at least
2 80% identical to SEQ ID NO:3.

1 73. The isolated polypeptide of claim 72, wherein the polypeptide is SEQ
2 ID NO:3.

1 74. An isolated polypeptide comprising an amino acid sequence at least
2 80% identical to SEQ ID NO:7.

1 75. The isolated polypeptide of claim 74, wherein the polypeptide is SEQ
2 ID NO:7.

76. An antibody capable of binding the isolated polypeptide of claim 72.

77. An antibody capable of binding the isolated polypeptide of claim 74.

1 subcl 78. A method of introducing an isolated polynucleotide into a host cell
2 comprising:

- 3 (a) providing an isolated polynucleotide according to claim 1; and
4 (b) contacting the polynucleotide with the host cell under
5 conditions that permit insertion of the polynucleotide into the host cell.

1 79. A method of detecting a polynucleotide in a sample, comprising

- 2 (a) providing an isolated polynucleotide according to claim 1;
3 (b) contacting the isolated polynucleotide with a sample under conditions

4 which permit a comparison of the sequence of the isolated polynucleotide with the sequence
5 of DNA in the sample; and

- 6 (c) analyzing the result of the comparison.

